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ABSTRACT

This study was designed to determine if (a) a developed interview procedure could be used to encourage students in both open and traditional schools to effectively state their educational goals and standards of performance in behavioral terms and (b) to determine if the goal statements obtained differed between the two school populations. Three students from each grade equivalent in an open school (K-12 grade range) and three from each grade in comparable traditional schools served as subjects. Results indicated that (a) 78 percent of the subjects gave statements of observable, measurable behaviors, (b) the 17 nonbehavioral responses could be stated behaviorally or reduced to smaller behavioral units by a teacher without distorting the student's intent, (c) 96 percent of the subjects gave measures that could be used to evaluate the quantity or quality of performance, and (d) 26 percent of the measures needed slight modification to be realistic criteria for the performance. Further analyses indicated that goals proposed by subjects from the two school populations were very similar in terms of subject matter areas covered. The only striking difference appeared to be a result of a recent stress placed on one subject area by the traditional schools. The study thus indicates that students at all grade levels from kindergarten through high school can contribute substantially to the formulation of individualized instruction. (Author/MM)

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The Role of the Individual in Individualized Instruction: An Investigation of Student-Selected Instructional Planning

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The Role of the Individual in Individualized Instruction: An Investigation of Student-Selected Instructional Planning

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While much of the history of American education can be perceived as the interchange of dominance by autocratic, standardized schools and democratic, individualized ones (cf., Gans, 1970; McDonald, 1970) these two alternatives are evident simultaneously in current educational practice: they may be contrasted as the learner-selected educational experience and the adult-selected educational experience. Unfortunately, the apparent dichotomy in this formulation has led to a direct conflict, with proponents of each position emphasizing literature supporting their philosophical or procedural stance while attacking the viewpoints of opponents.

While the differences between the two approaches have received a great deal of attention, little has been accomplished in terms of resolving the differences through the analysis and application of variables common to both such as:

> Emphasis on individualized instruction,
>
> Direct concern with student motivation, and
>
> Reliance on objectives for the specification of curricula
>
> (Silberman, 1970; Skinner, 1968).

The most significant points of potential agreement between the two approaches are the use of objectives for the planning of educational experiences and the consideration of the learner as a source of direc-

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tion. As noted by Macdonald, "Purposes arise from the subject whom, it is implied, intentionally seeks some end" (1970, p. 25). However, unless such purposes are specified little guidance can be given the learner, and unless the student's objectives are measured, no analysis of educational progress can be made.

Advocates of the adult-selected experiences suggest that the necessary experiences for formal education be prespecified in behavioral terms, based, ideally, on empirically established characteristics and needs of the learner, e.g., through teacher observation, parent/student interview, tests or historical records and the comparison of learner needs on a normative basis (Tyler, 1950). The student-selected experience is usually reliant on student-expressed, but general, interests and goals for instructional planning. While providing a nonspecific direction for educational experiences, general goals are limited in that they do not provide for precise communication between the home and the school, they do not express the information necessary for the selection of educational experiences, and, being essentially unmeasurable, they do not allow for the systematic evaluation of learner progress.

Conversely, in the absence of ideal empirical data or knowledge, the adult-directed experience relies heavily on the imposition of objectives based on assumed learner needs. While providing the necessary objectivity for evaluation and societal selection of educational experiences, imposed objectives do not capitalize on the reinforcing aspects of goal-setting by the learner (Gaa, Note 1), they do not consider the variability in learner interests, and typically do not provide the learner with information related to the relevance of the outcomes of

instruction.

The need for specific objectives is apparent, and the desirability, if not necessity, of student involvement in the specification of these objectives has been often expressed by proponents of both positions. Yet, what educators advocate and what they practice are frequently quite different:

> Researchers have not shown a workable method by which instructional objectives can reflect objectivity. There is no system for collecting the comprehensive range of facts from which more valid inferences and objectives can be derived. Personal bias and power remain the chief determiners of educational objectives. This is true of the formulation of educational objectives at a national level....and at the classroom level where the teacher selects objectives for individual pupils (McNeil, 1969, p. 303).

Thus, while there has been extensive effort expended in the definition and clarification of objective and considerable research into their value in the educational enterprise, there has been a crucial constraint on this inquiry in that the sources of the objectives have invariably been professional, adult authorities (cf., Morreau, 1975, pp. 4-31). That is, the range of alternative procedures for generating or deriving objectives can be partitioned into four basic categories: Teacher-stated, teacher-selected, student-selected, and student-stated. The first three sources of objectives are all adult initiated,

and have been the source for all published studies of objectives in education (Duchastel & Merrill, 1973; Hartley & Davies, 1976).

A major deficit exists in procedures for actively involving the learner in the process of educational decision-making, in terms of identifying substantive curricular objectives and of establishing criteria of performance. In response to this need, the present research was initiated to determine if procedures could be developed by which students in both open and traditional schools could effectively state their educational goals and standards of performance in behavioral terms, and to determine if the goal statements obtained differed between such school populations.

A basic premise of this study was that "schools" can be defined by their approaches to curriculum. As noted by Joiner (Note 2), "curriculum approaches can be divided into two basic categories: (a) have students learn basic subject matter that has been carefully planned and sequenced [teacher-selected]....or (b) arrange a variety of learning experiences for students in which they practice skills needed in their daily life and learn subject matter as needed to carry out projects of interest to them [student-selected]" (p. 5). The fact that students from an open school (as defined by the latter curriculum approach) might have a unique history of self assertion in determining learning experiences suggested the value of deriving the principles for student goal-setting based on the responses of students in "conventional" schools (as defined by the first curriculum approach) as well.

To investigate the effectiveness and generalizability of procedures developed for eliciting behavioral objectives, a K-12 grade open school

in a major midwestern city school district was matched [redacted] on grade level equivalents with traditional schools from that district on the basis of socio-economic levels and characteristics of attending students.

Method

Subjects

Three students were randomly selected from each grade equivalent in an open school (K-12 grade range), and three from each grade in comparable traditional schools (elementary, junior, and senior high).

Because of the commitment of the administration, staff, and parents to student-directed education, the St. Paul Open School was selected as the site for the initial investigation. The 500 students enrolled in the Open School were deliberately selected from the application list of 955 volunteer families so as to be representative of the range of ages, racial and ethnic groups, socio-economic statuses, and areas within the city.

To insure the representation of students from "teacher-managed" programs, the present investigators, with the assistance of the Administrator for Instructional Research and Evaluation for the St. Paul Public Schools, identified traditional schools, including grades kindergarten through twelve, in which the characteristics of the students would be equivalent to those enrolled in the Open School.

Procedure

The second author, who was an expert at writing behavioral objectives and had pilot tested the interview technique to be utilized

(Morreau, 1975, pp. 36-37), served as investigator. Each student was interviewed in a private room in his/her respective school with a fifteen-minute maximum set per interview. Since the student responses were necessarily open-ended, each interview was taped and transcribed.

After discussion was initiated, the investigator proceeded to ask the questions related to the student's goals, i.e., What would you like to learn to do? If a student could not respond to the question, the investigator stated a simplified form. When the student responded to a question with a behavioral statement or an area of study, the investigator proceeded to the question related to measures, i.e., How will you know when you can do it well? Again, if the student could not respond to a given question, the question was stated in a simplified form. The interview was considered completed when the student indicated a behavior he wished to develop and a procedure by which his success could be evaluated.

Two individuals having expertise in the area of writing behavioral objectives and a combined history of greater than fifteen years of teaching experience were selected to evaluate the student responses. To promote consistent use of the criteria for evaluation, each judge completed a program on writing and modifying objectives (Morreau & Hess, 1973).

After the student responses were transferred to 5" x 8" cards coded to indicate grade and school, each judge independently rated the student responses using four criterion questions:

Is the outcome stated as an observable and measurable behavior?

If not, could a teacher independently restate it in this form

or reduce it to smaller behavioral units without losing the student's intent?

Could a quantity or level of quality be set using the student's measure for evaluation?

Would the measure require teacher input in establishing limits or criteria?

(See Morreau, 1975, for complete details on scoring)

Results

Sixty-one of the seventy-eight students (78%) responded with statements of observable, measurable behavior. The agreement between the primary judges in rating the students' responses to these questions was 95%. A review of the individual items which were judged to be non-behavioral indicated that eight students stated a general verb; six students responded with statements related to general skill areas, e.g., "painting," "sign language," "experimental work," and "better dancer"; and three students responded with long-range goals in the form of vocations. As may be seen in Table 1, the distribution of non-behavioral goal statements was almost equally divided between open and traditional school students, and there was a tendency for non-behavioral goal responses to be offered by middle and upper grade students.

These data indicated that a substantial majority of students can state their goals in behavioral terms, but that in some instances further refinement by the student or restatement by the teacher will be required.

Insert Table 1 about here

In those instances where the student did not respond with a behavioral statement, could a teacher restate it for the student without losing the student's intent?

Of the 17 responses which were judged to be nonbehavioral, the primary judges agreed (100%) that all could be restated behaviorally or reduced to smaller behavioral units by a teacher without distorting the stduent's intent. In other words, with limited interpretation, all of the students' goals could have been stated in behavioral terms.

Can students establish procedures for evaluation of their performance?

The data indicated that seventy-five of the seventy-eight students (96%) established measures which could be used to evaluate the quantity or quality of their performance. (The degree of agreement between judges was 99%.)

Do students need assistance in establishing criteria for the evaluation of their performance?

While students can establish viable measures of their performance, in many instances students would need assistance in establishing realistic criteria or limits. Of significance, then, was the number of student responses which would require teacher input for establishing realistic criteria for success.

The primary judges agreed (96%) that twenty of the seventy-eight measures established by students (26%) would require teacher input in establishing criteria or limits by which performance could be evaluated.

When viewed as a composite set, these data indicated that, with limited assistance, students state their goals as behavioral objectives--

a prerequisite to educational planning.

Insert Table 2 about here

Further Analyses

While the primary objectives of this research were to investigate the possibility of developing a systematic and effective technique for eliciting goal statements, and to judge their behavioral utility, the pupils' responses were available for further analysis. An immediate question pertains to the educational relevance of the responses, and to ancillary questions of differences in content across ages and schools.

To address these issues, judges were trained in the use of aspects of Bloom's taxonomy of the cognitive, affective and psychomotor domains of education, as they applied to the standard content categories of the curriculum: Social Studies; Sciences; Mathematics; Speech and Language Arts (including reading and writing); Home Economics; Art; Physical Education; Industrial Arts; Business Education. The percentage of agreement of the two raters for the Open School objectives was 87%; for the items from the traditional schools' students (91%).

The contrasts of School X Age level X Subject Matter are presented in Table 2. The first major point to be made is that all the objectives stated by the pupils were assignable by the criteria provided (further consideration is given to the validity of this conclusion below). The numbers generally are too small for specific contrasts to be conclusive, and the search for age trends fruitless. The school comparisons appear to be of interest primarily because of their similarities. The only striking difference is reflected in the zero incidence for business education in the Open

School, with five objectives expressed in the regular schools. This may reflect the fact that this data was gathered just as "Career Education" was becoming a catchword in the school districts' administration.

Some further grasp of these data, and some purchase on their validity, may emerge from a brief reference to distributions across Bloom's and others toxonomic domains. For instance, of the seven total math objectives (both school types) all were judged to be cognitive, while the seven physical education objectives were all judged psychomotor. The Sciences objectives were also all cognitive. The mixed domains also appeared reasonable, given different subject matter emphases. For instance, in the Language Arts, 13 objectives were cognitive, one affective, three psychomotor: in Art 13 were psychomotor, one affective, and five cognitive; and so forth.

To further validate the educational relevance of the objectives, subject matter experts were asked to judge the objectives from their area on two criteria: A) Was this objective appropriate or relevant for a public school program, and B) Would the activity entailed be available in most public school programs?

Across content areas, the percentages of objectives which were judged positively on both criteria were: Social Studies, 25%+ (i.e., the judge wouldn't rule them out!); Sciences, 83%; Math
Speech and Language Arts, 94%; Home Economics and Industrial Arts (combined) 85%; Art, 95%; Physical Education, 71%; Business Education, 100%.

It is probably worth mentioning that most of the objectives re-

jected were questioned on availability, not on appropriateness, and availability generally meant the objective was "too advanced" for standard curricula, which suggests that educators may be underestimating students' abilities and/or ambitions.

Discussion

The results of this investigation indicate that students at all grade levels from Kindergarten through High School, could contribute substantially to the formulation of individualized or personalized instructional programs for themselves. Their contribution can be made in the form of educationally relevant objectives, generally involving school based activities and reasonable grounds for evaluation. The primary divergence from standard curriculum planning emerges in the point of temporal implementation, inasmuch as the students wish to engage in the activities at times other than when they are offered in the curriculum. Somewhat less administratively divergent but personally important changes in programs would involve pre-established standards of individual mastery, and individual differences in preferances for specifics of diverse content, where possible, and in form or technique of performance.

The results from this limited sample do not come close to exhausting "the contents of children's minds" (Hall, 1883), nor exhausting the inventory of their interests. Such was not our intent, of course. We perceive the most important result of this investigation is the demonstration of the potential of the procedure for establishing program objectives with learner involvement--a problem which has been consistently confronted by curriculum developers (McNeil, 1969; Tyler, 1950). If

systematically applied, individualized objectives can be derived for all students, thereby providing the structure for curriculum development and planning, e.g., given behaviorally-stated objectives, teachers can bring their expertise to bear in guiding students in setting priorities, selecting activities, and sequencing experiences. Within a framework of sequentially arranged objectives, each student would come to have his unique approach to education and, indeed, life, broadly reflected in a succinct but specific performance profile. Such a cumulative record of tangible achievements would be an increasingly reliable indicator of the interests and abilities of the developing individual, as well as of his previous educational experiences and probable future needs. Teachers, counselors, and even administrators could better conduct their professional responsibilities in the light of such information; and it must be at least arguable that the "best" teachers and programs always rely on and so somehow acquire such information for guidance in instructional planning.

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Table 1

Incidence of Students giving Unbehavioral Responses

Grouped by Age Level and Type of School

SCHOOLS	NONBEHAVIORAL RESPONSES			
	K-4	5-8	9-12	Total
Open	0	4	4	8
Traditional	1	3	5	9

Table 2

Numbers of Objectives from Open and Standardized School Pupils, Grouped by Grade Levels and Subject Matter Areas

	K-4	5-8	9-12	Total
1. *Social Studies				
Open	0	0	3	3
Standardized	1	0	0	1
2. Sciences				
Open	1	3	0	4
Standardized	1	0	1	2
3. Math				
Open	2	1	0	3
Standardized	1	2	1	4
4. Speech & Language Arts				
Open	4	2	2	8
Standardized	6	2	1	9
5. Home Economics				
Open	1	0	1	2
Standardized	0	2	1	3
6. Art				
Open	3	4	3	10
Standardized	3	4	2	9
7. Physical Education				
Open	3	0	1	4
Standardized	3	0	0	3
8. Industrial Arts				
Open	1	2	2	5
Standardized	0	0	3	3
9. Business Education				
Open	0	0	0	0
Standardized	0	3	2	5

*Numbers identify content areas, taxonomic domains are reported C (Cognitive, A (Affective), and P (Psychomotor). 1,C2-A1-P1; 2,C6,A0,P0; 3,C7,A0,P0; 4,C13,A1,P3; 5,C4,A1,P0; 6,C5,A1,P13; 7,C0,A0,P7; 8,C5,A0, P3; 9,C4,A0,P1.